

KNH

File: 0642-8329US-Final/cathywan/ksmith

What is claimed is:

1 1. A process for producing a non-woven composite
2 fabric, comprising the following steps:
3 forming at least two webs, wherein the at least two
4 webs include at least one spunbonded web or meltblown
5 web; and
6 consolidating the at least two webs by water-jet
7 entangling into a non-woven composite fabric.

1 2. The process as claimed in claim 1, wherein the
2 at least two webs include two spunbonded webs.

1 3. The process as claimed in claim 1, wherein the
2 at least two webs include a spunbonded web and a meltblown
3 web.

1 4. The process as claimed in claim 3, wherein the
2 at least two webs include a spunbonded web and a meltblown
3 web on the spunbonded web.

1 5. The process as claimed in claim 3, wherein the
2 at least two webs include a meltblown web and a spunbonded
3 web on the meltblown web.

1 6. The process as claimed in claim 1, wherein the
2 at least two webs include a spunbonded web, a meltblown
3 web, and a carded web.

1 7. The process as claimed in claim 6, wherein the
2 at least two webs include a spunbonded web, a meltblown

KNH

File: 0642-8329US-Final/cathywan/ksmith

3 web on the spunbonded web, and a carded web on the
4 meltblown web.

1 8. The process as claimed in claim 1, wherein the
2 at least two webs include a first spunbonded web, a
3 meltblown web on the first spunbonded web, and a second
4 spunbonded web on the meltblown web.

1 9. The process as claimed in claim 1, wherein the
2 at least two webs include a first spunbonded web, a first
3 meltblown web on the first spunbonded web, a second
4 meltblown web on the first meltblown web, and a second
5 spunbonded web on the second meltblown web.

1 10. The process as claimed in claim 1, wherein the
2 spunbonded web is composed of mono-component fiber or
3 bi-component fiber of a melt spinning polymer, and the
4 meltblown web is composed of mono-component fiber or
5 bi-component fiber of a melt spinning polymer.

1 11. The process as claimed in claim 10, wherein the
2 melt spinning polymer is polypropylene (PP),
3 polyethylene (PE), polyethylene terephthalate (PET),
4 polybutylene terephthalate (PBT), a copolymer of
5 polypropylene (CoPP), a copolymer of polyethylene
6 terephthalate (CoPET), a copolymer of polybutylene
7 terephthalate (CoPBT), or a polyamide.

1 12. The process as claimed in claim 10, wherein the
2 bi-component fiber of the melt spinning polymer is made
3 of a material of polypropylene/polyethylene (PP/PE),
4 polyethylene terephthalate/polyethylene (PET/PE),

KNH

File: 0642-8329US-Final/cathywan/ksmith

5 polyethylene terephthalate/polypropylene (PET/PP),
6 polypropylene/a copolymer of polypropylene (PP/CoPP),
7 polyethylene terephthalate/a copolymer of polyethylene
8 terephthalate (PET/CoPET),. or a higher melting
9 polyamide/a lower melting polyamide.

1 13. The process as claimed in claim 7, wherein the
2 bi-component fiber of the melt spinning polymer includes
3 a lower melting component and a higher melting component.

1 14. The process as claimed in claim 10, wherein the
2 bi-component fiber of the melt spinning polymer is a
3 micro fiber.

1 15. The process as claimed in claim 1, wherein
2 formation of the at least two webs and the step of
3 water-jet entangling are conducted on the same
4 production line.

1 16. The process as claimed in claim 1, further
2 comprising, after consolidating, coating with, or
3 dipping in, polyurethane (PU).

1 17. The process as claimed in claim 16, further
2 comprising, after coating or dipping, drying.

1 18. A non-woven composite fabric product,
2 comprising the non-woven composite fabric produced by
3 the process of claim 1.

KNH

File: 0642-8329US-Final/cathywan/ksmith

1 19. The non-woven composite fabric product as
2 claimed in claim 18, wherein the product is a disposable
3 diaper, sanitary napkin, or panty liner.

1 20. A non-woven composite fabric product,
2 comprising the non-woven composite fabric produced by
3 the process of claim 13.

1 21. The non-woven composite fabric product as
2 claimed in claim 20, wherein the product is artificial
3 leather.